

INTRODUCTION

Congratulations on your purchase of a MODZ® Max golf cart battery charger!

If you have questions, concerns or experiencing issues of any kind, please contact us using one of the methods below. Please do not return unit to online retailer.



Phone:

Speak to one of our customer service representatives at 844-MODZ-USA Monday through Friday 8:00am – 6:00pm CST



Email:

Contact our customer service team anytime with questions regarding your MODZ® Max battery charger at info@cartmodz.com



Website:

Send us a message online at our website <https://cartmodz.com/max/>

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I SAFETY PRECAUTIONS!

- NEVER splice, extend or otherwise alter the AC/DC cord. Altering either cord may increase risk of fire or electrocution
- DO NOT attempt to repair the charger. Attempting to repair or alter the charger may increase risk of fire or electrocution
- ALWAYS operate the charger in a well-ventilated area to reduce the risk of igniting combustible gases
- AVOID using the charger if the power cables, plugs or charger itself appear damaged in any way

II IMPORTANT SAFETY INSTRUCTIONS

1. SAVE THESE INSTRUCTIONS

This manual contains important safety and operating instructions for the MODZ® Max battery charger. Failure to follow these instructions could result in serious damage to you or your golf cart. Please read this manual in its entirety prior to operating the battery charger.

2. BATTERY TYPES

MODZ® Max battery chargers should only be used with flooded lead-acid batteries manufactured by reputable golf cart battery brands.

3. UNPLUGGING CHARGER

To reduce the risk of damage, gently unplug the charger at the charging plug and never disconnect the charger by pulling on the cord.

4. USING AN EXTENSION CORD

It is highly recommended to never use an extension cord. The use of an improper extension cord could result in fire or electrocution.

If an extension cord must be used, always:

- a) Confirm the pins on the plug of the extension cord are the same in number, size and shape as those found on the AC plug of the charger.
- b) Inspect the extension cable for signs of damage prior to use.
- c) Verify the extension cable is rated for the AC ampere rating of the charger.

5. DO NOT USE CHARGER WITH A DAMAGED CORD OR PLUG

Do not operate the charger with a damaged cord or plug. Using the charger with a damaged cord or plug can result in fire, bodily harm or even death.

6. DO NOT OPERATE CHARGER IF IT HAS BEEN DROPPED OR DAMAGED

Do not operate charger if it has been dropped, sustained a hard impact or damaged in any way.

7. DO NOT DISASSEMBLE CHARGER

Do not disassemble the charger. Disassembling the charger will void the limited 18-month warranty.

8. ALWAYS UNPLUG CHARGER PRIOR TO ANY MAINTENANCE

To reduce risk of electric shock, always unplug charger from electrical outlet and disconnect from golf cart before attempting any maintenance or cleaning.

9. RISKS OF WORKING WITH LEAD-ACID BATTERIES

a) WORKING IN THE VICINITY OF LEAD-ACID BATTERIES CAN BE DANGEROUS. DURING NORMAL OPERATION LEAD-ACID BATTERIES CAN PRODUCE DANGEROUS EXPLOSIVE GASES. FOR THIS REASON, IT IS IMPORTANT THAT YOU FOLLOW THE INSTRUCTIONS INCLUDED IN THIS MANUAL EVERY TIME YOU USE THE CHARGER.

b) To reduce the risk of an explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of the charger.

b) To reduce the risk of explosion, damage or bodily harm, follow the charging instructions published by the golf cart manufacturer.

10. PRECAUTIONS WHEN WORKING WITH LEAD-ACID BATTERIES

a) When working with lead-acid batteries it's recommended to always have someone close by should an emergency arise.

b) Always have soap and water on-hand in case of accidental exposure to battery acid on skin, clothes or eyes.

c) Always wear proper safety equipment when working with lead-acid batteries including protective safety goggles and gloves.

d) If your skin or clothing comes into contact with battery acid, immediately wash with soap and water. If battery acid comes into contact with eyes, immediately flush eyes with cold running water for at least 10 minutes and seek medical assistance as soon as possible.

e) *DO NOT SMOKE AROUND BATTERIES WHILE CHARGING. FAILING TO DO SO COULD IGNITE AN EXPLOSION*

f) Avoid anything that may cause a spark near the batteries while charging.

g) Avoid wearing jewelry such as rings, bracelets, necklaces or watches when working with lead-acid batteries.

h) Always keep your cellphone as far away from your batteries while charging as possible. Cellphones can create sparks which can lead to an explosion.

j) Only charge lead-acid batteries specified by this manual. Never charge dry-cell batteries as they may burst

k) *NEVER CHARGE FROZEN BATTERIES AS THEY MAY EXPLODE CAUSING DAMAGE, BODILY INJURY OR DEATH*

11. PREPARING TO CHARGE

a) Confirm golf cart batteries are flooded/wet cell. The battery charger cannot charge sealed and AGM type batteries

b) Ensure all batteries are at the proper water levels. Be careful not to overfill batteries. Always adhere to the battery manufacturer's maintenance and operation instructions.

c) Follow the battery manufacturer's recommended rates of charge and recharging procedures.

13. CHARGING LOCATION

a) Only use the charger in well ventilated areas. Using the charger in a confined space will decrease the efficiency and lifespan of the charger.

b) If using an extension cord is absolutely necessary, please refer to the precautions outlined in this instruction manual.

14. MOUNTING THE CHARGER

The MODZ® Max battery charger can easily be mounted to flat a surface via the mounting base.

a) When mounting the battery charger, it is recommended to use nuts and bolts instead of screws.

b) The charger can be installed upright, on its side or upside down.

c) When choosing an installation location, make sure there is at least 2 to 3 inches of space behind the fan to provide sufficient cooling

15. GENERAL MAINTENANCE

a) When cleaning, always ensure the charger handle is disconnected from the golf cart charging port and the AC cord is unplugged from the outlet.

b) Clean the charger with a slightly damp cloth. Do not use cleaning solvents.

16. DC DISCONNECTION INSTRUCTIONS (ON-BOARD CHARGERS ONLY)

Always disconnect the AC plug from power outlet prior to disconnecting positive and negative cables

III CHARGER PROTECTION FUNCTIONS

- *Burnout Protection*: If the charger exceeds normal operating temperatures, power output will be decreased until regular operating temperatures resume.

If the charger exceeds 149° F, the charger will automatically stop charging and go into standby mode until normal operating temperatures are detected and charging can safely be resumed.

- *Polarity Detection Protection*: If one or more batteries are connected improperly, the charger will automatically shut down to prevent any potential damage to the batteries.

- *Idle Load Protection*: When disconnected, the charger will have zero power output.

- *Short Circuit Protection*: If a short-circuit is detected, the charger will automatically shut down. The charger will resume normal charging once the short-circuit is no longer detected.

- *Automatic Shut Down*: The charger will automatically shut down once all batteries are fully charged.

IV OPERATING INSTRUCTIONS

MODZ® Max battery chargers are intended for use with flooded/wet-acid golf cart batteries only. Always refer to your battery manufacturer's instructions when recharging your batteries.

ONLY CHARGE YOUR GOLF CART IN WELL VENTILATED AREAS AS FLOODED/WET-ACID BATTERIES PRODUCE COMBUSTABLE GASES DURING NORMAL OPERATION

Basic Operating Instructions:

- a) Firmly connect the DC charger plug into your golf cart's charging receptacle.
- b) Plug-in the battery charger using the AC power cord to an appropriate outlet.
- c) Wait for LED indicator light (this may take up to 90 seconds). The LED status light will flash red and green while assessing your battery capacity and ambient temperature readings.
- d) Once the charger has assessed your golf cart battery level the proper charging mode will begin, and the fan will turn on. Refer to the charging modes section for more details on the different charging states.
- e) When you're ready to use or move the golf cart, gently remove the charging handle from the golf cart charging receptacle.
- f) Once the charger handle has been removed from the golf cart charging port, unplug the AC plug from the outlet if the charge will not be used for a prolonged period of time.
- g) Safely store the battery charger when not in use.

V CHARGER FEATURES

EASY TO OPERATE

The MODZ® Max battery charger includes innovative, plug and forget smart float technology allowing you to plug in your golf cart and leave it plugged in without fear of damaging your batteries over extended periods of time

TOUGH TESTED

WATER RESISTANT

The MODZ® Max battery charger has an IP67 (ingress protection) rating. Products with the IP67 rating not only provide complete protection against dust, but also protection against full water submersion as deep as 1 meter (3.2ft) for up to 30 minutes.

RUGGED CONSTRUCTION

The MODZ® Max battery charger is constructed with a durable die-cast aluminum alloy casing. The internal circuitry of the charger is coated with a protective thermal silica gel providing significant protection against dust, water and vibration.

SMART CHARGING

The MODZ® Max battery charger uses an internal microprocessor to intelligently charge the batteries of your golf cart based on real-time battery pack capacity and ambient temperature readings. The digital microprocessor provides:

- Multi-stage charging
- Output & Input over/under voltage protection
- Temperature compensation
- Short-circuit & no-load protection

VI CHARGER STATUS INDICATOR LIGHT

The MODZ® Max charger features an easy-to-read led charging status indicator light.

CHARGING STATES

<u>Charging Mode</u>	<u>Battery Level</u>	<u>Charging State Indicators</u>
Trickle Charging	0% - 20%	Red flashing: On 1 second, Off 3 seconds
Low Battery Charging	20% - 80%	Red flashing: On 1 second, Off 1 second
Normal Charging	80% - 99%	Yellow flashing: On 1 second, Off 1 second
Fully Charged	100%	Solid green light

Fault Status

If the charger status light is flashing green and red it may be due to one or more of the following reasons:

<u>Possible Fault Reason</u>	<u>Recommendation</u>
No or insufficient load	Ensure the charger plug is fully plugged into the charging receptacle and that there are no dead or defective batteries via a load test
Over voltage or current	Unplug the charger from both the golf cart and the power outlet, after several minutes attempt to reconnect the charger
The ambient temperature is too high	Confirm the ambient temperature is not in excess of 149F and the charger has proper ventilation
The ambient temperature is too low	Confirm the ambient temperature is not below -22F
Input AC abnormality	Check the input voltage and confirm the AC plug is in good condition

VII WARRANTY

The MODZ® battery charger includes an 18-month limited warranty.

The 18-month limited warranty is non-transferable and only available to the original retail purchaser. The warranty coverage starts on the date of purchase. Within this coverage period, any product defect will warrant a full replacement charger at zero cost to the consumer excluding any replacement shipping costs.

EXCLUSIONS & LIMITATIONS

This warranty does not cover commercial or rental usage of the charger and such use of the charger will void the warranty. The warranty does not cover normal wear & tear of the charger including but not limited to minor cosmetic damage and blemishes.

Damages outside of normal wear and tear caused by accident, misuse or modification will not be covered by this warranty.

The retail purchaser is responsible for the cost of regular maintenance or replacement parts outside the scope of the limited warranty. Before using the charger, the purchaser is responsible for determining the compatibility of the charger for golf cart charging application.

VIII COMPLIANCE STATEMENTS

Statement of Environmental Responsibility

As an environmentally conscious company, we are constantly seeking to reduce our environmental footprint and impact. It is our intention, to fully cooperate with local authorities regarding any applicable laws or regulations.

Product Recycling

All end users of the charger must comply with relevant laws and regulations when recycling the charger.

Electromagnetic Compatibility

The MODZ® Max charger complies with the Electromagnetic Compatibility Directive 2014/30/EU which requires devices to not:

- Cause excessive electromagnetic interference
- Unduly affected by electromagnetic interference

Environmental Ratings

- Operating environment temperature: -22F~149F
- Ambient storage temperature: -40F~203F
- Operating altitude 2000 meters

IV DIMENSIONS & OPERATING PARAMETERS

Dimensions:	11 in x 3 in x 6 in
Weight:	7.2 lbs
AC CORD LENGTH	8 ft
DC CORD LENGTH	8 ft
AC Input Voltage Range	90-120VAC; 45-65Hz
AC Input Max Current:	8.0A @ 100VAC
Power Factor:	>0.99
Efficiency:	>94.0%
Noise	<45dB
Ingress Protection Rating	IP67
Operating Temperature	-22F ~ 149F
Storage Temperature	-40F ~ 203F